## REMARKS

The Office Action of April 3, 2003 has been reviewed and the comments therein were carefully considered. Claims 1-9, 11, and 13-33 remain pending. Claims 1, 13, 16 and 19 have been amended and claims 10 and 12 have been canceled.

## Claim Objections

Claim 32 is objected to under 37 CRF 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. In particular, claim 32 is alleged to be a duplicate of claim 31.

In claim 31 the interrupt is switched from "non-maskable to maskable" and in claim 32 the interrupt is switched from "maskable to non-maskable." Reconsideration of this objection is requested.

## Rejections under 35 USC § 102

Claims 1-3, 6-7, 9-10, 19-21, 24-25, and 33 stand rejected under 35 U.S.C. 102(e) as being anticipated by Reiffin (US 6,330,583).

Claim 1 now includes the features of "instructing the CPU to allocate resources in real-time by the interrupt controller issuing non-maskable interrupts to the CPU."

In contrast to what is claimed, Reiffin discloses a local area network that uses parallel processing. Reiffin does not teach or suggest "instructing the CPU to allocate resources in real-time." In fact, in column 2, lines 34-47 and column 4, lines 5-13, Reiffin discloses the use of

interrupts occurring at fixed intervals (about 20 milliseconds). After activating the interrupt input of

the CPU, the counter is reset and the cycle of operation is iterated over and over again. *See* column

4, lines 9-40.

As indicated on page 8 of the Action, Reiffin does not teach using non-maskable interrupts.

The Action alleges that Bonola (U.S. patent No. 6,370,606) teaches the use of non-maskable

interrupts in column 10, lines 47-60. The Action then alleges that it would have been obvious to

"combine Reiffin with Bonola since Reiffin does not specify the type of interrupt the interrupt

controller handles from the counter. Therefore, by utilizing the method of Bonola a non-maskable

interrupt would ensure that the interrupt is serviced and thus the real-time capabilities of the system

are extended."

The Applicant respectfully submits that the Action has failed to provide proper motivation for

combining the teachings of Reiffin and Bonola. Neither Reiffin nor Bonola discusses extending the

capabilities of "real-time" capabilities. The motivation for making the combination appears to come

from the present application and is impermissible hindsight. *See* MPEP § 2145. The reference to

non-maskable interrupts made in column 10, lines 54-58 of Bonola refers to step 1010 in figure 10.

Figure 10 shows that non-maskable interrupts are but one of the types of interrupts that might be

received at a local APIC. Bonola provides no teaching as to why one type of interrupt would be

preferable to another type and clearly does not teach using a non-maskable interrupt to ensure that

the interrupt is serviced and that the real-time capabilities of the system are extended.

For at least these reasons, the Applicant respectfully submits that claim 1 is in condition for

allowance. Claims 2-3, 6-7 and 9 ultimately depend from claim 1 and are allowable for at least the

same reasons as claim 1. Claim 10 has been cancelled rendering the rejection of claim 10 moot.

Claim 19 now includes the feature of "using at least one counter to notify the scheduler when to switch execution of said at least one thread on a real-time basis." As described above, Reiffin discloses the use of interrupts occurring at fixed intervals. Reiffin does not teach or suggest "using at least one counter to notify the scheduler when to switch execution of said at least one thread on a real-time basis."

For at least these reasons, the Applicant respectfully submits that claim 19 is in condition for allowance. Claims 20, 21, 24, 25 and 33 ultimately depend from claim 19 and are allowable for at least the same reasons as claim 19.

## Rejections under 35 USC §103

Claims 4-5, 8 and 22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Reiffin in view of Patterson, et al. (US 6,320,882).

Claims 4-5 and 8 ultimately depend from claim 1 and are allowable for at least the same reasons as claim 1. Claim 22 ultimately depends from claim 19 and is allowable for at least the same reasons as claim 19.

Claims 11-18 stand rejected under 35 U.S.C. 103 (a) as being unpatentable over Reiffin in view of Bonola (US 6,370,606).

Claim 11 ultimately depends from claim 1 and is allowable for at least the same reasons as claim 1. Claim 12 has been cancelled rendering the rejection of claim 12 moot.

Claim 13 now includes the feature of "using the device to determine when to allocate the resources in real-time." As described above, Reiffin discloses the use of interrupts occurring at fixed intervals. Reiffin does not teach or suggest "using the device to determine when to allocate the

resources in real-time." Bonola also does not disclose this feature. Moreover, as described above, the Applicant respectfully submits that the Action has failed to provide proper motivation for combining the teachings of Reiffin and Bonola.

For at least these reasons, the Applicant respectfully submits that claim 13 is in condition for allowance. Claims 14-15 ultimately depend from claim 13 and are allowable for at least the same reasons as claim 13.

Claim 16 now includes the feature of "using the performance counter to determine when to allocate the resources to a second thread on a real-time basis." The allocation of resources on a real-time basis has been described above and is not found in either Reiffin or Bonola. Moreover, as described above, the Applicant respectfully submits that the Action has failed to provide proper motivation for combining the teachings of Reiffin and Bonola.

For at least these reasons, the Applicant respectfully submits that claim 16 is in condition for allowance. Claims 17-18 ultimately depend from claim 16 and are allowable for at least the same reasons as claim 16.

Claims 23 and 26-32 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Reiffin.

Claims 23 and 26-32 ultimately depend from claim 19 and are allowable for at least the same reasons as claim 19.
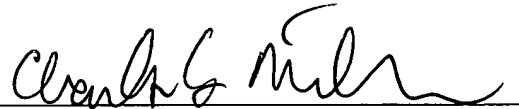
## CONCLUSION

In view of the above discussion, Applicant respectfully submits that the pending claims are in condition for allowance. Reconsideration and allowance of the pending claims is respectfully requested. Should the Examiner believe that a conversation with the Applicant's representative would be useful in the prosecution of this case, the Examiner is invited and encouraged to call the Applicant's representative.

Respectfully submitted,

Dated: July 17, 2003

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